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> f := 4*x^3+5*x^2+6*x+1;
                                     f:= 4x3 + 5x2 + 6x + 1
(1)
> g := 2*x^3-5*x+4;
                                     g := 2x3 - 5x + 4
(2)
> degree(f);
                                     3
(3)
> coeff(f,x,2);
                                     5
(4)
> SeriesMult := proc(f,g,x,n) # h = fg mod x^(n+1)
local C,k,i;
  C := Array(0..n);
  for k from 0 to n do
    C[k] := 0;
    for i from 0 to k do
      C[k] := C[k] + coeff(f,x,i)*coeff(g,x,k-i);
    od;
  od;
  add( C[k]*x^k, k=0..n );
end :
> SeriesMult(f,g,x,3);
                                     -7x3 - 10x2 + 19x + 4
(5)
> taylor(f*g,x=0,4);
                                     4 + 19x - 10x2 - 7x3 + O(x4)
(6)
> add( x[i], i=1..4 );
                                     x1 + x2 + x3 + x4
(7)
> add( i*x^i, i=1..4 );
                                     4x4 + 3x3 + 2x2 + x
(8)
> SeriesMult := proc(f,g,x,n) # h = fg mod x^(n+1)
local C,k,i,A,B;
  A := Array(0..n);
  B := Array(0..n);
  for k from 0 to n do
    A[k] := coeff(f,x,k);
    B[k] := coeff(g,x,k);
  od;
  C := Array(0..n);
  for k from 0 to n do
    C[k] := 0;
    for i from 0 to k do
      C[k] += A[i]*B[k-i];
    od;
  od;
  add( C[k]*x^k, k=0..n );
end :
> SeriesMult(f,g,x,3);
                                     -7x3 - 10x2 + 19x + 4
(9)
> taylor(f*g,x=0,4);
                                     4 + 19x - 10x2 - 7x3 + O(x4)
(10)

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